AMENDMENTS TO CLAIMS

Amend the claims as follows:

1. (Currently Amended) A data processing unit for registering a first image and a second image of an object in order to perform a predetermined task with the registered images, the data processing unit being set up to:

- segment the images automatically into various object constituents;
- register only those image areas associated with object constituents which are relevant to [a] the predetermined task, wherein the object constituents to be registered are selected independently from the first image and the second image.

2. (Previously Presented) A data processing unit as claimed in claim 1, which is further set up to register the image areas of various object constituents using individually assigned registration methods.

3. (Previously Presented) A data processing unit as claimed in claim 1, wherein the segmented object constituents are automatically classified.

4. (Previously Presented) A data processing unit as claimed in claim 1, wherein a linear registration is performed on several resolution levels, rigid bodies being registered on a coarse grid followed by affine registration on a finer grid.

5. (Previously Presented) A data processing unit as claimed in claim 1, wherein the first image and/or the second image are/is (a) two- or three-dimensional computer tomogram(s), in particular an X-ray photograph or a magnetic resonance image.

6. (Previously Presented) A data processing unit as claimed in claim 1, wherein the object is the chest of a patient, the lungs being the object constituent relevant to a tumor diagnosis.

7. (Previously Presented) A data processing unit as claimed in claim 1, wherein the segmentation is performed using a watershed transformation.

8. (Previously Presented) An examination apparatus, comprising:

- an imaging device for producing images of an object; and
- a data processing unit as claimed in claim 1, coupled to the imaging device.

9. (Currently Amended) A method for registering a first image and a second image of an object in order to perform a predetermined task with the registered images, comprising the following steps:

- automatic segmentation of the images into various object constituents;
- registration only of the image areas associated with object constituents relevant to [a] the predetermined task, wherein the object constituents to be registered are selected independently from the first image and the second image.

10. (Previously Presented) The method of claim 9 wherein the registration is performed using individually assigned registration methods in each object constituent.

11. (Previously Presented) The method of claim 9, further comprising automatically classifying the segmented object constituents.

12. (Previously Presented) The method of claim 9, further comprising performing a linear registration on several resolution levels, rigid bodies being registered on a coarse grid followed by affine registration on a finer grid.

13. (Previously Presented) The method of claim 9, wherein one of the first image and the second image is a two- or three-dimensional computer tomogram.

14. (Previously Presented) The method of claim 9, wherein the object is a chest of a patient, and the predetermined task is tumor diagnosis in a lung of the patient.

15. (Previously Presented) The method of claim 9, further comprising performing the segmentation using a watershed transformation.

16. (Previously Presented) The method of claim 9, wherein the registration is one of a rigid body transformation, an affine transformation, and a non-linear spline function.

17. (Previously Presented) A data processing unit as claimed in claim 1, wherein the registration is one of a rigid body transformation, an affine transformation, and a non-linear spline function.

18. (Previously Presented) A method for a user to use a data processing unit to register a first image and a second image of an object, the method comprising:

- the user selecting one or more object constituents to be registered without consideration of the first image or the second image, the selected object constituents being relevant to a predetermined task, and the user inputting the selection into the data processing unit;
- the data processing unit being set up to automatically segment the first image and the second image into one or more object constituents, and then to register only the selected object constituents.

19. (Previously Presented) A method as claimed in claim 18, wherein the data processing unit is further set up to register the selected object constituents using individually assigned registration methods.